



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,372	01/23/2004	Kiyohito Yamamoto	00862.023416	4456

5514 7590 02/09/2005

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

STOCK JR, GORDON J

ART UNIT	PAPER NUMBER
----------	--------------

2877

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,372

Applicant(s)

YAMAMOTO, KIYOHITO

Examiner

Gordon J Stock

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15, 17-22 and 24-28 is/are rejected.
- 7) ☒ Claim(s) 16 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. **Claims 15, 17-22, 24-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over **EP 0 989 596 A1 to Shiraishi** in view of **Holcman et al. (6,544,805)—previously cited**.

As for **claims 15 and 22**, Shiraishi in a method of substrate exposure discloses the following: a first alignment system having a first stage and a first image sensing unit to detect a position of a notch-shaped mark on the substrate on said first stage using said first image sensing unit (Fig. 4: stage of 22; 30-32); a transfer system to transfer the substrate from said first stage onto a second stage (Fig. 4: 21); a second alignment system to detect a position of a second mark, alignment mark, on the substrate to align the substrate based on the detection obtained using said second image sensing unit (Fig. 4: 19; paragraph 0037) having a second stage (Fig. 4: 16); wherein the second mark is positioned within a view of said second image sensing unit (paragraph 0043).

As for having a higher magnification for the second image-sensing unit than the first, Shiraishi is silent. However, Holcman in a method for determining orientation of a wafer teaches that coarse alignment is used with lower magnification than fine alignment (col. 7, lines 1-5). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made that the second image sensing unit has a higher magnification in order to view the smaller alignment mark in fine alignment and the first image sensing unit has a lower magnification in order to view a larger notch mark in a coarser prealignment.

As for **claims 17 and 24**, Shiraishi in view of Holcman disclose everything as above (see **claims 15 and 22**). In addition, Shiraishi discloses the first alignment system aligns the substrate based on the detection using said first imaging sensing unit (paragraph 0040).

As for **claims 18 and 25**, Shiraishi in view of Holcman disclose everything as above (see **claims 15 and 22**). In addition, Shiraishi discloses the second mark is positioned within the view by moving said second stage based on the detection of said first image sensing unit (paragraphs 0037-0038).

As for **claims 19 and 26**, Shiraishi in view of Holcman disclose everything as above (see **claims 15 and 22**). In addition, Shiraishi discloses the first alignment system detects the position of the first mark based on an outer shape of the substrate (Fig. 5).

As for **claims 20 and 27**, Shiraishi in view of Holcman disclose everything as above (see **claims 17 and 24**). In addition, Shiraishi discloses driving said first stage to bring the first mark to a reference position (paragraph 0042).

As for **claims 21 and 28**, Shiraishi in view of Holcman disclose everything as above (see **claims 15 and 22**). Shiraishi is silent concerning a member onto which an end face of the substrate is pressed. However, Examiner takes official notice that chucks are well-known in the art to press wafers in position. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have a vacuum chuck in the first alignment system to hold the wafer on the prealignment stage.

Art Unit: 2877

Allowable Subject Matter

3. **Claims 16 and 23** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to **claims 16 and 23**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an exposure apparatus and alignment method the first mark and the second are the same, in combination with the rest of the limitations of **claims 16 and 23**.

Response to Arguments

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

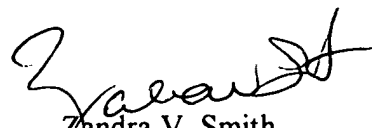
Application/Control Number: 10/762,372

Page 6

Art Unit: 2877


gs

February 5, 2005


Zandra V. Smith
Primary Examiner
Art Unit 2877